

Biomedical Engineering Program
University of Arizona

BME 696C – Student Forum
1 credit

M 1-2PM
Keating 103

Description:

We have two topic blocks planned for forum. In the first, we will develop lab and lecture modules for Salpointe High School A.P. science teachers to help expose their students to biomedical engineering. As part of this education block, we will also have lectures on effective teaching and discussions on the current state of biomedical engineering in public policy. The second topic block will be an introduction to different careers for Ph.D.s. We will have speakers from national labs, industry, and academia in to discuss what they do and how they got there.

Attendance:

Attendance is mandatory. Absences can be made-up by attending alternate seminars or volunteering to lead a discussion. Participation in the teaching collaboration is voluntary since the meeting times will fall outside of the normally scheduled class times. Currently, we have Monday at 3 PM as our tentative meeting time.

Project Beta – Introducing Biomedical Engineering to the High School Student:

Project Goals:

This project aims to develop a collaborative effort between the biomedical engineering graduate forum students and teachers, Tim Barry and Heather Parra, at Salpointe H.S. The collaboration will center on creating a laboratory and/or lecture module(s) introducing basic biomedical engineering concepts into the classroom.

Background:

Current education research suggests that K-12 students are not able to maintain interest in science and mathematics, let alone engineering. A portion of the problem centers on lack of funding as well as difficulties with overly streamlined curricula. However, a large part of the problem has to do with a communication gap between scientists and the general public. It is difficult to be interested in topics if they are presented as undecipherable, inapplicable, and unexciting.

However, defining and explaining the field to K-12 students is often excessively complicated and convoluted. In order to promote understanding of biomedical engineering at the high school level, we propose to team up with a high school teacher(s) to develop simple labs or lectures that will expose students to biomedical engineering. These will be created as much as possible to be in keeping with the teacher's own curriculum.

Project Steps:

1. Identify difficulties faced by teachers in introducing and promoting science and engineering at the high school level.
2. Learn about multiple learning styles and how to develop classroom materials to suit as many learning styles as possible.
3. Brainstorm possible labs or lectures within curriculum limitations.
4. Develop basic outline of experiment with approximate material costs and time requirements.
5. Create interactive teaching tools to introduce background/supporting topics.
6. Identify and finalize protocols and handouts.

Estimated Timeline:

Jan-Feb: steps 1, 2, and 3
 Feb-Mar: step 4 and 5
 Apr: step 6

Schedule:

Spring 2008	Presentation	Speaker
January 16, 2008		
January 21, 2008	No Forum: MLK Day	
January 28, 2008	Syllabus; Updates on committees	
February 4, 2008		
February 11, 2008	Ph.D.s and NASA	Sivaram Arepalli, NASA-JSC
February 18, 2008	From Research to Dean	Deidre Meldrum, ASU
February 25, 2008	Exploring Learning Styles	Kyla Macario
March 3, 2008	Speeding Up FDA Approval	C-Path Institute
March 10, 2008	CVTG Invited Speaker	Jeffrey W. Kiel, UTHSC-San Antonio

March 17, 2008	No Forum: Spring Break	
March 24, 2008	Prosthetics & Orthotics	Hanger Co.
March 31, 2008	Committee updates & Student presentation	Saumya VanderWyst
April 7, 2008	Student presentation	Jay Konieczka and Jen Elster
April 14, 2008	Poster Session & Invited Alumni Speaker	Joelle Sarlis, NIH
April 21, 2008	Student presentation	Ed DeHoog and Johnny Ashton
April 28, 2008	Student presentation & Book/paper discussion	Nick King
May 5, 2008	Forum Evaluation Day	

Please contact Saumya saumyasv@u.arizona.edu if you have any questions/comments.